

## CLAIMS

1. A method of producing a tire with a substantially filled core comprising: combining core bits and a liquid virgin polyurethane; and introducing the resulting combination into the core.
2. The method of claim 1 further comprising grinding a core of a used tire to make the core bits.
3. The method of claim 1 wherein said introducing step includes passing the resulting combination through a valve located on the tire.
4. The method of claim 1 wherein said introducing step includes introducing the resulting combination into a tube located within a casing of the tire.
5. The method of claim 1 further comprising the step of combining a polyol and an isocyanate to produce the liquid virgin polyurethane.
6. The method of claim 1 wherein said combining step includes combining the core bits with a toluene diisocyanate.
7. The method of claim 1 wherein said combining step includes combining the core bits with a flatproofing material.

8. The method of claim 1 wherein said introducing step includes pumping the resulting combination into a casing of the tire and permitting the resulting combination to cure within the tire.
9. The method of claim 1 wherein the core has a total volume, and the introducing step includes introducing an amount of the resulting combination into the core to occupy more than 95% of the total volume.
10. The method of claim 1 wherein said combining step includes combining the core bits and the liquid virgin polyurethane at amounts sufficient to produce a resultant combination having from about 50 to about 99 weight percent core bits and from about 1 to about 49 percent of the liquid virgin polyurethane.
11. The method of claim 1 wherein said combining step includes combining the core bits and the liquid virgin polyurethane at amounts sufficient to produce a resultant combination having from about 60 to about 95 weight percent core bits and from about 5 to about 40 percent of the liquid virgin polyurethane.
12. The method of claim 1 wherein said combining step includes combining the core bits and the liquid virgin polyurethane at amounts sufficient to produce a resultant combination having from about 75 to about 90 weight percent core bits and from about 10 to about 25 percent of the liquid virgin polyurethane.

13. The method of claim 1 further comprising the step of processing cured flatproofing material to produce core bits having an average core bit size of less than 0.125 cubic inches.

14. The method of claim 1 further comprising the step of processing cured flatproofing material to produce core bits having an average core bit size of less than 0.0156 cubic inches.

15. The method of claim 1 further comprising the step of processing cured flatproofing material to produce core bits having an average core bit size between .125 and .000244 cubic inches.

16. The method of claim 1 further comprising the step of grinding a core of a used tire in a first grinder to form first pieces larger than the core bits in the resulting combination, transferring the first pieces to a second device, and further reducing the size of the first pieces by grinding to make the core bits.

17. The method of claim 1 further comprising the step of recycling the core of a used tire to produce the core bits.

18. The method of claim 1 wherein the combining step includes combining the core bits with a first amount of the liquid virgin polyurethane and subsequently introducing an additional amount of the liquid virgin polyurethane.

19. The method of claim 1 including the step of mixing together distinct compositions to form the liquid polyurethane.

20. A method of producing a tire having an internal tube comprising: introducing core bits into the tube of the tire.

21. The method of claim 20 further comprising the step of processing cured flatproofing material to produce core bits having an average core bit size between .125 and .000244 cubic inches.

22. A method of producing a tire having a valve comprising: introducing core bits into the tire through the valve.

23. The method of claim 22 further comprising the step of grinding a core of a used tire in a first grinder to form first pieces larger than the introduced core bits, and further reducing the size of the first pieces by grinding to make the introduced core bits.